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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,754	08/10/2001	John K. Sikora	1285-0054US	5951

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EXAMINER

BELLO, AGUSTIN

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/927,754

Applicant(s)

SIKORA, JOHN K.

Examiner

Agustin Bello

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,16 and 17 is/are rejected.
- 7) ☒ Claim(s) 3-15 and 18-30 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/15/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu (U.S. Patent No. 6,445,478) in view of Murai (U.S. Patent No. 6,718,142).

Regarding claims 1 and 16, Shimizu teaches a digital lightwave communications system (Figure 17), comprising the steps: providing radio frequency (RF) electrical data (reference numeral 5 in Figure 17) to a first stage modulator (reference numeral 3a in Figure 17) for modulating a light input (reference numeral 26 in Figure 17) so as to generate an intermediary optical data output (e.g. output of reference numeral 3a in Figure 17) having a non-return-to-zero (NRZ) format (column 28 lines 48-51); controlling a phase difference between said intermediary optical data output and a clock signal associated therewith using a feedback control loop (reference numeral 8, 90, 4, and 5 in Figure 17) operable responsive at least in part to a phase dither reference signal (reference letter "D" in Figure 17); adjusting said clock signal (reference numeral 5 in Figure 17) based on a phase control signal (reference letter "V" in Figure 17) provided by said feedback control loop to generate a phase-adjusted clock signal (e.g. output of reference numeral 4 in Figure 17); and providing said phase-adjusted clock signal to a second stage modulator (reference numeral 3b in Figure 17). Shimizu differs from the claimed invention in that Shimizu fails to specifically teach that the second stage modulator is operable to

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blank out a select portion of data intervals of said intermediary optical data output for creating optical data having an RZ format. However, the concept of using a modulator to blank out a select portion of data intervals of an intermediary optical data output to creating optical data having an RZ format is well known in the art. Murai, in the same field of optical communications, teaches this concept (column 2 lines 31-65). Furthermore, Shimizu, in an alternate embodiment suggests a method for generating a RZ optical data signal from an NRZ data signal (see Figure 39). Shimizu further teaches the ability to narrow the pulse widths of an input pulse train, thereby suggesting that an NRZ pulse train can have selected portions of its pulses narrowed or blanked out to conform to the RZ signal format. One skilled in the art would have been motivated to follow either the teachings of Murai or the suggestions of Shimizu in creating optical data having the RZ format since, as noted by Murai (column 1 lines 22-24), RZ signals provide a good correlation with optical time division multiplexing. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to follow either the explicit teachings of Murai or the suggestions of Shimizu in converting a NRZ signal format to an RZ signal format by blanking out selected portions of data intervals of an intermediary optical data output.

Regarding claims 2 and 17, the combination of Shimizu and Murai differs from the claimed invention in that it fails to specifically teach that the RF electrical data is operable in a Gigabits per second (Gbps) range. However, operating RF electrical data in a Gigabits per second (Gbps) range is well known in the art and would have been obvious to one skilled in the art at the time the invention was made. One skilled in the art would have been motivated to

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operate the RF electrical data in the Gigabits per second (Gbps) range in order to increase the overall amount of data transmitted by the system.

Allowable Subject Matter

3. Claims 3-15 and 18-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach or fully suggest providing an output generated by a synchronous (SYNC) detector operable to detect signal transitions said optical data due a phase difference between said intermediary optical data output and said clock signal to an amplifier stage, said SYNC detector operating responsive least part an RF amplitude dither reference signal in an RF data amplitude feedback control loop associated with said first stage modulator; providing an output generated by said amplifier stage to a phase SYNC detector operating in response to said phase dither reference signal generate phase error signal; and providing said phase error signal phase error amplifier having its reference input grounded, said phase error amplifier operating generate an output signal that groomed into said phase control signal. Although the prior art teaches a feedback loop with a SYNC detector, the prior art fails to specifically teach that the first SYNC detector is responsive to an RF amplitude dither reference signal. Furthermore, the prior art fails to teach or suggest a second SYNC detector which operating in response to a phase dither reference signal.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Allie, Bergano, and Noda provide relevant art.

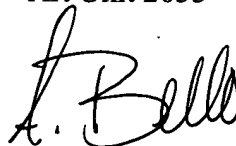
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

Agustin Bello
Examiner
Art Unit 2633



10/19/04